



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



11 Publication number: 0 515 203 A3

12

## EUROPEAN PATENT APPLICATION

21 Application number: 92304651.0

51 Int. Cl.<sup>5</sup>: C08L 67/04, // (C08L67/04,  
101:00)

22 Date of filing: 21.05.92

30 Priority: 24.05.91 US 705574

72 Inventor: Kharas, Gregory B.  
7 Crockett Drive  
Chelmsford, Mass. 01824 (US)  
Inventor: Nemphos, Speros P.  
610-D Ridgefield  
Clinton, Mass. 01510 (US)

43 Date of publication of application:  
25.11.92 Bulletin 92/48

74 Representative: Jukes, Herbert Lewis et al  
Swann, Elt & Company 31 Beaumont Street  
Oxford OX1 2NP (GB)

84 Designated Contracting States:  
BE CH DE FR GB IT LI NL SE

88 Date of deferred publication of search report:  
11.08.93 Bulletin 93/32

71 Applicant: NOVACOR CHEMICALS  
(INTERNATIONAL) S.A.  
Fribourg, Canton of Fribourg (CH)

### 54 Polylactide blends.

57 Alloys comprising from about 60 to 98 weight % of a polymer of lactic acid and from 40 to 2 weight % of one or more polymers selected from the group of polyalkylene oxides, polymers of derivatives of an alkenyl alcohol, copolymers of conjugated dienes and vinyl aromatic monomers or alkenyl nitriles, ethylene-propylene-copolymers, optionally halogen substituted conjugated diene polymers, butylrubbers or thermoplastic polyurethane elastomers have good flexibility and may be formed into useful articles, particularly for packaging purposes.

EP 0 515 203 A3



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 92 30 4651

## DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)		
X	EUROPEAN POLYMER JOURNAL, vol. 24, no. 8, 1988, page 765, Pergamon Press plc, GB; H. YOUNES et al.: "Phase separation in poly(ethylene glycol)/poly(lactic acid) blends" * Abstract; pages 765-766; page 767, figure 4 *	1,43,44	C 08 L 67/04 // (C 08 L 67/04 C 08 L 101:00 )		
Y	IDEML ---	4-6,24-26			
D, X	WO-A-9 001 521 (BATTELLE MEMORIAL INSTITUTE) * Abstract; claims 27,28,35,36,39,41; page 82, line 31 - page 83, line 5 *	1-3,8-11,16,21-23,29-31,36,41-44			
Y	* Abstract *	4-6,24-26			
X	WO-A-8 400 302 (RIJKSUNIVERSITEIT TE GRONINGEN) * Claims 1-3; page 2, line 34 - page 4, line 15 *	1-3,20-23,40,43	TECHNICAL FIELDS SEARCHED (Int. Cl.5)		
X	H.M. DOLLINGER: "Novel bicontinuous poly(d,L-lactic acid)-ethylene/vinyl acetate blends for biomedical applications", University of Lowell, April 1991 * Abstract; pages 29,43 *	1-3,21-23	C 08 L		
P, X	WO-A-9 204 412 (DU PONT DE NEMOURS AND CO.) * Claims 1,3,20,27; example 2 *	1-3,7,21-23,27,41-44			
	---	-/-			
The present search report has been drawn up for all claims					
Place of search	Date of completion of the search	Examiner			
THE HAGUE	19-04-1993	KRISCHE D H T			
CATEGORY OF CITED DOCUMENTS					
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document					
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document					



European Patent  
Office

### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid.  
namely claims:
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.  
namely:

See sheet -B-

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid.  
namely claims:
- None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.  
namely claims:



European Patent  
Office

## EUROPEAN SEARCH REPORT

Page 2

Application Number

EP 92 30 4651

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
P, X	WO-A-9 204 413 (BATTELLE MEMORIAL INST.) * Claims 104,111-114,126-128 *	1-3,8- 11,16, 20,21, 23,28- 31,36, 40	
X	WO-A-8 400 303 (RIJKSUNIVERSITEIT TE GRONINGEN) * Claims 1,4; page 2, lines 7-34; example III *	1-3,20- 23,40, 43	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
<p>The present search report has been drawn up for all claims</p>			
Place of search  THE HAGUE	Date of completion of the search  19-04-1993	Examiner  KRISCHE D H T	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-patent disclosure P : intermediate document			



	<b>LACK OF UNITY OF INVENTION</b>
--	-----------------------------------

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-6, 21-26, 41-44:  
Polylactide + poly(C2-6-alkylene oxides)
2. Claims 1-3, 7, 21-23, 27, 41-44:  
Polylactide + (Co)polymer of a C2-6-alkylene ether of a C2-10 alkanol
3. Claims 1-3, 8-12, 21-23, 28-32, 41-44:  
Polylactide + copolymer of vinylaromatic monomer and conjugated diene
4. Claims 1-3, 13-15, 21-23, 33-35, 41-44:  
Polylactide + ethylene-propylene-copolymers
5. Claims 1-3, 16, 21-23, 36, 41-44:  
Polylactide + conjugated diene -(Co)polymers
6. Claims 1-3, 17, 18, 21-23, 37, 38, 41-44:  
Polylactide + diene-alkenyl nitrile-copolymers
7. Claims 1-3, 19, 21-23, 39, 41-44:  
Polylactide + isoprene-isobutylene copolymers
8. Claims 1-3, 20-23, 40-44:  
Polylactide + polyurethane thermoplastic elastomer